

# Comparisons of Job Characteristics

**Focus Occupation:** [Engineering Technicians, Except Drafters, All Other \(17-3029\)](#)

**Associated Occupation:** [Biomedical Engineers \(17-2031\)](#)

[Compare Knowledge](#)

[Compare Skills](#)

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[Compare Detailed Work Activities](#)

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|    |  |
|----|--|
| << | Focus occupation element is much lower             |
| <  | Focus occupation element is lower                  |
| 0  | Focus occupation element is at a similar level     |
| >  | Focus occupation element is at a higher level      |
| >> | Focus occupation element is at a much higher level |

## Knowledge

Similarity of Focus Occupation to Associated Occupation: 61

**Focus Occupation:** Engineering Technicians, Except Drafters, All Other (17-3029)

**Associated Occupation:** Biomedical Engineers (17-2031)

| Associated Occupation's Key Knowledge Elements | Average Rating, All Occupations | Associated Occupation's Rating | Focus Occupation's Rating |    | Evaluation of Focus Occupation                      |
|--|---------------------------------|--------------------------------|---------------------------|----|---|
| Biology  | 3.7                             | 21.2                           | 2.4                       | << | Extensive education and/or training may be required |
| Engineering and Technology                     | 5.7                             | 21.0                           | 17.6                      | << | Extensive education and/or training may be required |
| Mathematics                                    | 9.2                             | 20.2                           | 16.6                      | << | Extensive education and/or training may be required |
| Physics  | 4.3                             | 17.6                           | 12.9                      | << | Extensive education and/or training may be required |
| Design   | 5.2                             | 16.6                           | 15.1                      | 0  | Current knowledge level may be sufficient           |
| Computers and Electronics                      | 8.4                             | 16.5                           | 16.2                      | 0  | Current knowledge level may be sufficient           |
| Chemistry                                      | 4.8                             | 16.3                           | 7.8                       | << | Extensive education and/or training may be required |
| Medicine and Dentistry                         | 3.7                             | 14.4                           | 2.3                       | << | Extensive education and/or training may be required |

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.

## Skills

Similarity of Focus Occupation to Associated Occupation: 40

**Focus Occupation:** Engineering Technicians, Except Drafters, All Other (17-3029)

**Associated Occupation:** Biomedical Engineers (17-2031)

| Associated Occupation's Key Skills Elements | Average Rating, All Occupations | Associated Occupation's Rating | Focus Occupation's Rating |    | Evaluation of Focus Occupation                               |
|---|---------------------------------|--------------------------------|---------------------------|----|--|
| Science                                     | 4.5                             | 17.1                           | 7.7                       | << | Extensive development of skills in this area may be required |
| Complex Problem Solving                     | 9.1                             | 15.1                           | 11.3                      | << | Extensive development of skills in this area may be required |

|                              |     |      |      |    |  |
|------------------------------|-----|------|------|----|--|
| Judgment and Decision Making | 9.4 | 15.1 | 10.8 | << | Extensive development of skills in this area may be required |
| Operations Analysis          | 5.0 | 14.6 | 7.2  | << | Extensive development of skills in this area may be required |
| Mathematics                  | 6.2 | 14.2 | 10.8 | << | Extensive development of skills in this area may be required |
| Technology Design            | 2.6 | 11.7 | 7.0  | << | Extensive development of skills in this area may be required |
| Programming                  | 2.2 | 10.1 | 4.9  | << | Extensive development of skills in this area may be required |
| Installation                 | 1.7 | 7.5  | 6.2  | <  | A higher skill level may be required                         |

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.

| Abilities  |                                 | Similarity of Focus Occupation to Associated Occupation: 92 |                           |                                |  |
|--|---------------------------------|---|---------------------------|--------------------------------|--|
| Focus Occupation: Engineering Technicians, Except Drafters, All Other (17-3029)<br>Associated Occupation: Biomedical Engineers (17-2031) |                                 |   |                           |                                |  |
| Associated Occupation's Key Abilities Elements   | Average Rating, All Occupations | Associated Occupation's Rating                              | Focus Occupation's Rating | Evaluation of Focus Occupation |  |
| Deductive Reasoning  | 10.6                            | 17.6  | 12.9                      | <<                             | Extensive improvement in abilities may be required |
| Inductive Reasoning  | 10.2                            | 16.8  | 12.0                      | <<                             | Extensive improvement in abilities may be required |
| Written Comprehension  | 11.0                            | 16.6  | 12.7                      | <<                             | Extensive improvement in abilities may be required |
| Problem Sensitivity  | 11.1                            | 16.3  | 12.6                      | <<                             | Extensive improvement in abilities may be required |
| Oral Comprehension   | 12.5                            | 16.1  | 13.6                      | <                              | Some improvement in abilities may be required      |
| Originality  | 7.6                             | 14.5  | 9.2                       | <<                             | Extensive improvement in abilities may be required |
| Near Vision  | 11.1                            | 13.9  | 12.4                      | <                              | Some improvement in abilities may be required      |
| Category Flexibility   | 9.0                             | 13.6  | 11.0                      | <                              | Some improvement in abilities may be required      |
| Information Ordering   | 9.9                             | 13.6  | 12.0                      | <                              | Some improvement in abilities may be required      |
| Mathematical Reasoning   | 6.3                             | 13.6  | 11.2                      | <                              | Some improvement in abilities may be required      |
| Visualization  | 7.5                             | 12.4  | 12.3                      | 0                              | Current ability level may be sufficient            |

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.

There are no common work activities.

| Tools and Technologies that Both Occupations Have in Common | Similarity of Focus Occupation to Associated Occupation: 72 |
|---|---|
|---|---|

**Focus Occupation: Engineering Technicians, Except Drafters, All Other (17-3029)**  
**Associated Occupation: Biomedical Engineers (17-2031)**

| <b>Tools and Technologies</b>                                      | <b>Exclusivity</b> |
|--|--------------------|
| Actuators  | 70                 |
| Autoclave and sterilizer equipment and accessories                 | 12                 |
| Business function specific software                                | 1                  |
| Chemical evaluation instruments and supplies                       | 10                 |
| Circuit assemblies and radio frequency RF components               | 40                 |
| Computer data input devices  | 2                  |
| Computer printers  | 2                  |
| Computers  | 1                  |
| Content authoring and editing software                             | 1                  |
| Data management and query software                                 | 1                  |
| Development software   | 4                  |
| Electrical measuring and testing equipment                         | 7                  |
| Electrochemical measuring instruments and accessories              | 9                  |
| Fluid mechanics equipment  | 11                 |
| Holding and clamping tools   | 3                  |
| Indicating and recording instruments                               | 2                  |
| Industry specific software   | 1                  |
| Integrated circuits  | 18                 |
| Laboratory centrifuges and accessories                             | 13                 |
| Laboratory electron and solid state physics equipment              | 29                 |
| Laboratory enclosures and accessories                              | 17                 |
| Laboratory incubating equipment                                    | 20                 |
| Laboratory washing and cleaning equipment                          | 35                 |
| Length and thickness and distance measuring instruments            | 2                  |
| Machine tools  | 7                  |
| Machinery for working wood and stone and ceramic and the like      | 12                 |
| Mechanical instruments   | 14                 |
| Metals and metallurgy and structural materials testing instruments | 15                 |
| Pressure measuring and control instruments                         | 10                 |
| Rubber and plastic processing machinery and equipment and supplies | 35                 |
| Sound generating and measuring equipment                           | 19                 |
| Spectroscopic equipment  | 10                 |
| Transducers  | 23                 |
| Viewing and observing instruments and accessories                  | 4                  |

Not all positions in these occupations will necessarily use all of the listed tools and technologies. The exclusivity rating is an indication of how unique the tool or technology is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations use that tool or technology.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O\*NET (Occupation Information Network) data.